

Amendment dated

Reply to Office Action of November 10, 2005

AMENDMENTS TO THE SPECIFICATION

Please amend paragraph [0004] as follows:

[0004] In conventional additive micro-lens fabrication, an intermediate material is deposited in an array onto a substrate and formed into a micro-lens array using a reflow process. Each micro-lens is formed with a minimum distance, typically no less than 0.3 microns (μm), between adjacent micro-lenses. Any closer than 0.3 ~~micrometers~~ μm may cause two neighboring micro-lenses to bridge during reflow. In the known process, each micro-lens is patterned as a single square with gaps around it. During the reflooding of the patterned square micro-lenses, they form a gel drop in a partially spherical shape driven by the force equilibrium of surface tension and gravity. The micro-lenses then harden in this shape. If the gap between two adjacent gel drops is too narrow, they may touch and merge, or bridge, into one larger drop. The effect of bridging is that it changes the shape of the lenses, which leads to a change in focal length, or more precisely the energy distribution in the focal range. A change in the energy distribution in the focal range leads to a loss in quantum efficiency of and enhanced cross-talk between pixels. The gaps, however, allow unfocused photons through the empty spaces in the micro-lens array, leading to increased cross-talk between respective photosensors of adjacent pixel cells.

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Please amend paragraph [0026] as follows:

[0026] Each of the first micro-lenses 112_G can be formed to have a focal length of similar length as the focal lengths of the second micro-lenses 112_B and the third micro-lenses 112_R. Alternatively, micro-lenses 112_G, 112_B, and 112_R can be formed to have different focal lengths. As is known in the art, different wavelengths of light are absorbed at different depths within a photosensor. Therefore, micro-lenses 112_G, 112_B, and 112_R can be formed having a focal length optimized for the wavelength of light to be absorbed, e.g., green, blue, and red, respectively. In such a case, micro-lenses 112_B can be formed having a focal length corresponding to approximately a top surface of an underlying photosensor, micro-lenses 112_R can be formed having a focal length corresponding to a greater depth within an underlying photosensor, for example, approximately between 2 micrometers (μ) μ m to 3 [[μ]] μ m deep, and micro-lenses 112_G can be formed having a focal length corresponding to an intermediate depth within an underlying photosensor between that of micro-lenses 112_B and 112_R.